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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,812

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Timo Leinonen

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EXAMINER

CHOI, LING SIU

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,812	Applicant(s) LEINONEN ET AL.	
	Examiner Ling-Siu Choi	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 and 36-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-34 and 36-52 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/30/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Preliminary Amendment filed 03/30/2005. Claim 35 was cancelled and claims 36-52 have been added. Claims 1-34 and 36-52 are now pending, wherein claims 1-32 and 36-46 are drawn to a process to prepare an olefin polymerization catalyst component in the form of particles having a predetermined size range; claim 33 is drawn to particles of the catalyst component; claim 34 and 47-49 are drawn to an olefin polymerization catalyst; and claims 50-52 are drawn to use of the catalyst.

Claim Objections

2. Claims 1-34 and 36-52 are objected to because of the following informalities: (A) **claim 1**, line 8, "emulsion the dispersed phase of which" is suggested to be changed to --emulsion, the dispersed phase of which--; (B) **claim 29**, lines 2-3, "the turbulence minimizing agent is preferably a polymer having linear aliphatic carbon backbone chains" is suggested to be changed to --the turbulence minimizing agent is a polymer having linear aliphatic carbon backbone chains--; and (C) **claim 29**, lines 3-5, "said polymer being preferably selected from α -olefin polymers having a high molecular weight of about $1-40 \times 10^6$ " is suggested to be changed to --said polymer being selected from α -olefin polymers having a high molecular weight of about $1-40 \times 10^6$ --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 28 and 50-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 29 recites the broad recitation "the turbulence minimizing agent is preferably a polymer having linear

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aliphatic carbon backbone chains”, and the claim also recites “said polymer preferably selected from α -olefin polymers having a high molecular weight of about $1-40 \times 10^6$ ” which is the narrower statement of the range/limitation.

Claims 50-52 provide for the use of the catalyst, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 50-52 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Analysis

5. Summary of Claim 1:

A process for preparing an <u>olefin polymerization catalyst component</u> in the form of particles having a predetermined size range, said process comprising the steps of	
A	preparing a solution of a complex of a Group 2 metal and an electron donor by reacting a <u>compound of said metal with said electron donor</u> or a precursor thereof in an organic liquid reaction medium;
B	adding said solution of said complex to at least one <u>compound of a transition metal</u> to produce an <u>emulsion</u> the dispersed phase of which contains more than 50 mol% of the Group 2 metal in said complex;

C	agitating the emulsion in order to maintain the droplets of said dispersed phase within such an average size range of 5 to 200 μm ;
D	solidifying said droplets of the dispersed phase; and
E	recovering the solidified particles of the olefin polymerization catalyst component;
wherein an <u>aluminum alkyl compound</u> of the general formula $\text{Al R}_{3-n}\text{X}_n$ wherein R stands for a straight chain or branched alkyl group having 1 to 20 carbon atoms; X stands for halogen; and n stands for 0, 1, 2 or 3, is added and brought into contact with the droplets of the dispersed phase of the agitated emulsion before recovering the solidified particles in step E	

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 3-15, 17-25, 33-34, and 36-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al. (US 6,800,580 B1).

Yang et al. disclose a method to produce a solid titanium catalyst for polymerization of an α -olefin, the method comprising: (A) preparing a magnesium compound solution by dissolving a magnesium halide compound and a compound of Group IIIA of the Periodic Table in a mixed solvent comprising a cyclic ether, one or more alcohols, a phosphorous compound and an organic silane; (B) reacting the magnesium compound solution with a transition metal compound, a silicon compound, or a mixture thereof, and then **precipitating the solid particles**; and (C) reacting the precipitated solid particles with a titanium compound and an electron donor, wherein the compound of Group IIIA of the Periodic Table is aluminum halide; the particle has $d_{90} = 70.7 \mu\text{m}$; the electron donor can be dialkyl phthalate (col. 6, lines 39-40; col. 9, lines 4-10; claims 1-2). Thus, the present claims are anticipated by the disclosure of Yang et al.

8. Claims 1-15, 17-34, and 36-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Cuffiani et al. (EP 0 083 073 A1).

Cuffiani et al. disclose a method to prepare a catalyst component, the method comprising (A) preparation of emulsifiable liquid A – (i) introducing 44.07 g of anhydrous MgCl_2 , 199 g of anhydrous AlCl_3 , 640 ml of anhydrous toluene, and 80 ml of dehydrated 1,2-dichloroethane into a flask fitted with stirrer; (ii) heating the resulting

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suspension to 110°C and then maintaining it at that temperature for 2 hours; and then (iii) filtering it to obtain a red-brownish oily liquid (liquid A); (B) emulsifying of liquid A – (i) introducing silicon oil and n-butyl ether into the emulsifying device and then (ii) adding liquid A (to which TiCl_3 is previously added) under the highest stirring to emulsify liquid A ; (C) prepolymerization - (i) transferring the emulsion to a flask; (ii) introducing 500 ml hexane solution containing $\text{Al}(\text{C}_2\text{H}_5)_3$; and (iii) flowing ethylene into the flask to form a prepolymerized catalyst component; and (E) polymerization of α -olefin in the presence of the prepolymerized catalyst, wherein the resulting polymer has a size between 500 and 1,000 micron (Examples 1-5 –page 11-16).

Allowable Subject Matter

9. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098. The examiner can normally be reached on Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Ling-Siu Choi/

Primary Examiner, Art Unit 1796

September 20, 2008

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